



## Creative and Inventive Ways to Aid the Global Poor

As the saying goes, "necessity is the mother of invention". Poverty can be a major spur to invention, and invention a route out of poverty - but only if the poor in the developing world can get the recognition, capital and support for navigating the legal and bureaucratic hurdles that will inevitably stand in their way. Thankfully many new initiatives acknowledge this.

Contrary to popular perception, the poor do have buying power, as has been documented by [Massachusetts Institute of Technology \(MIT\)](#) professors Abhijit Banerjee and Esther Duflo in their paper "[The Economic Lives of the Poor](#)". Surveying 13 countries, they found those living on less than a dollar a day, the very poor, actually spent 1/3 of their household income on things other than food, including tobacco, alcohol, weddings, funerals, religious festivals, radios and TVs. The researchers also found that the poor increasingly used their spending power to seek out private sector options when the public sector failed to provide adequate services. As awareness of global poverty has grown in the past decade, a new wave of scientists, inventors and entrepreneurs has started to apply their considerable brain power to tackling the everyday problems of the poor.

[Afrigadget](#), a website celebrating African ingenuity and inventions, serves as a goldmine for small-scale entrepreneurs looking for inspiration. All the inventions on the website share something in common: they are grassroots, homemade and handmade solutions to everyday problems of the poor. Examples of inventions profiled on the website include multi-machines, basically a 3-in-1 machine used as metal lathe, mill and drill press, all built by hand from old car engine parts; a US \$100 bicycle motor that gets 50 kilometres per liter made in Kisumu, Kenya; hand-made African wire toys; do-it-yourself telephone handsets which are then used to run roadside phone booths as a small business; and Malawian homemade windmills used to generate electricity for both home use and as a business to recharge mobile phone and radio batteries.

Another African invention tackles the urgent need for inexpensive or free common toilets that are self-financing. In the Kibera slum of Nairobi, Kenya, where 60 percent of the city's inhabitants live, the lack of decent toilet facilities has led to the widespread use of so-called "flying toilets", plastic bags filled with excrement and then flung as far away as possible. The resulting build-up turns the streets into a foul smelling sludge in the rainy season and causes disease outbreaks like diarrhoea and typhoid fever. Up to now, conventional attempts to provide communal toilets have failed to resolve the problem, because they charge too much to use. But an innovative solution has been developed: bio-latrines that capture the methane gas produced by the toilets for sale as gas for cooking, heating and lighting, and the sludge for fertilizer. A joint initiative between a Kenyan company, Globology Limited, and the NGOs [Umande Trust](#) and Ushirika Roho Safi Laini Saba, it is partly funded by the Swedish International Development Agency (SIDA). The toilets are used by 500 people a day and are self-financing from the profits made by the sale of the gas and fertilizer.

In India, social entrepreneurs have stepped in to help the rural poor navigate the Indian government bureaucracy. [Drishtee](#), an internet service provider - offers a fast-track to government services used by the poor in rural villages through its e-government services information kiosk. Using a franchise model, it has branches spread out through 160 locations in the country and serves 1.5 million people. Drishtee's niche

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is that it saves the poor the exhausting and draining time and long travel normally required to access any government services. Drishtee's "ask a government employee" service brings government to the poorest people.

Operating out of New Zealand and South Africa, [Ecologics](#) is a engineering company focused on developing appropriate technologies for sustainable livelihoods in developing countries. All their inventions are built around the principles of low maintenance and costs, and ease of use. Its African operations are based in South Africa and run under the [Black Economic Empowerment \(BEE\)](#) scheme. It builds step powered pumps, the Step Action Water Pump which works just like a gym step exercise machine and is a highly efficient way to power the pump - for small scale mining and agricultural irrigation. The pumps ca deliver 5,000 to 6,000 litres of water per hour, weigh just 11 kilograms, and have been field tested in Fiji, Lesotho and South Africa.

#### LINKS:

- [NextBillion.net](#): Hosted by the [World Resources Institute](#), it identifies sustainable business models that address the needs of the world's poorest citizens.
  - A paper on social lending via the web: [PDF version](#)
- [African Inventors Museum](#): The International African Inventors Museum promotes positive images and self-esteem in children and adults and teaches people of all nationalities about the contributions that Africans throughout the world have given to society.
- [AU-WIPO Prize](#): The AU-WIPO is an initiative of the Africa Union Commission and the World Intellectual Property Organization. It is a leading continental award in Africa honoring the scientists and technologists whose efforts are towards addressing critical problems in Africa and the attainment of the Millennium Development Goals.



## Kiva: New Gateway of Loans for the Poor

The rise of social networking websites has created new opportunities for the poor to gain access to much needed credit. Kiva.org is pioneering a new way for entrepreneurs in the South to obtain for their businesses unsecured, no-interest financing from lenders worldwide. By just a click of the mouse a person anywhere in the world can lend as little as \$25 or more to aspiring entrepreneurs in developing countries.

Kiva, which means "agreement" or "unity" in Swahili, was founded by Matthew and Jessica Flannery after time spent in East Africa. They built upon the idea of Nobel Peace Prize Winner, Muhammad Yunus' Grameen Bank but took it a step further by tapping into the resources of the web. It works by allowing potential lenders to search for an entrepreneur via the website. Each entrepreneur's business idea is explained, a photo of the entrepreneur is posted and the amount of the loan they require and how much they have raised so far are clearly displayed. It is then a simple matter of the lenders using their credit cards to make a loan online. Kiva then transfers all the funds to their local partners (microfinance institutions) which, in turn, disburse the loans to each business. All entrepreneurs are screened for their trustworthiness and the viability of their business. Loans are usually between 6 to 12 months and lenders receive regular email journal updates from the business they sponsor. Gradually, the loan is paid back and the lender is returned the full value of the loan.

The process is so simple that one may ask, "Does this really work?" Take the story of Nicholas Kristof, columnist for the New York Times who recently accounted his experience with Kiva.org in his New York Times Op-Ed piece, "You, Too, Can Be a Banker to the Poor". Through Kiva.org he chose two entrepreneurs, a baker and an owner of a TV repair shop in Afghanistan and lent them \$25 each instantly making himself a business partner with total strangers. He recently visited Afghanistan to see their progress and found two thriving businesses. Mr. Abdul Satar, the baker, borrowed a total of \$425 from a variety of lenders, Nicholas being one of them, and was able to open a second bakery with four employees. Mr. Abdul Saboor who runs a small TV repair shop now has a second shop with two new employees.

By harnessing a user friendly website to make instant cash loans, Kiva has come up with one of the simplest and most direct ways to help poor entrepreneurs who need start up capital. It was first tried out in Uganda about a year ago where partnerships were forged with local microfinance institutions that examined and evaluated each business before they were posted on the website. It has now attracted close to 18,000 lenders contributing an average of \$82.

"I believe the real solutions to poverty alleviation hinge on bringing capitalism and business to areas where there wasn't business or where it wasn't efficient," co-founder Matthew Flannery told the New York Times. "This doesn't have to be charity. You can partner with someone who's halfway around the world."

## Innovation From the Global South

A major study has documented a rising tide of scientific innovation coming from Asia's fast-developing countries, especially India and China. Conducted over 18 months by UK-based think tank [Demos](#), it challenges the conventional wisdom that scientific ideas come from the top universities and research laboratories of large companies based in Europe or the US. It found ideas emerging in unexpected places, flowing around the world conveyed by a mobile diaspora of knowledge workers from the South.

China has seen its spending on research and development jump by 20 percent each year since 1999. India is now producing 260,000 engineers a year and its number of engineering colleges is due to double to 1,000 by 2010. Research and development in India has grown by threefold over the past decade. There is now a global flow of research and development money to the new knowledge centres of Shanghai, Beijing, Hyderabad and Bangalore.

The study found the greater political and economic emphasis being placed on science and technology was paying dividends. These emerging science powers are now investing heavily in research to become world leaders in information technology, biotechnology and nanotechnology within the next ten to fifteen years. This is also producing a flood of scientific papers from China and India to the world's prestigious scientific journals.

For India, its knowledge-based industries by the end of this year will be a US \$57 billion export industry, accounting for 4 million jobs and 7 percent of Indian GDP. Interestingly, the study also found a new wave of change is underway. Where once it was mostly low-wage manufacturing and call centre jobs that were going to China and India, a new wave of research and development jobs is now moving there. Drawn in by technology clusters in Shanghai and Bangalore, "Microsoft began to realize we can't find all the talented people in the US. Nowhere in this universe has a higher concentration of IQ power (than India)," said Harry Shun, head of Microsoft's research in Asia.

### LINKS:

- The Atlas of Ideas is an 18-month study of science and innovation in China, India and South Korea, with a special focus on new opportunities for collaboration with Europe. It is a comprehensive account of the rising tide of Asian innovation. It pinpoints where Asian innovation is coming from and explains where it's headed. Special reports on China, India and Korea, introducing innovation policy and trends in these countries can be downloaded for free [here](#).
- [Entrepreneurship Development Institute of India](#)
- [Innovation China](#): A website linking all stories on the fast-breaking world of Chinese innovation.

## Creative Use of Wi-Fi to Reach the Poor

In 2003 former UN Secretary-General Kofi Annan called for greater access to wi-fi, or wireless internet networks, as a mechanism to help poorer regions catch up with the pace of technological change in developed countries. Wireless networks remove the need to lay costly wires and can quickly bring fast and convenient internet access to large populations currently denied access. By removing the need to lay lots of cables to get communities online, wireless could help poorer nations narrow the digital divide and catch up with countries where the technology has already taken hold. Social entrepreneurs are stepping in to fill the gap between the promise of wi-fi and the reality.

A contemporary take on the mobile library, where a bus travels to remote or under serviced areas to lend books, is being used to bring wi-fi and web content to remote villages in India, Rwanda, Cambodia and Paraguay lacking internet access. [United Villages](#) and its subsidiary [First Mile Solutions](#) cleverly targets only the content the villagers really want and then provides it to them for a fee. Using a fleet of buses and motorcycles, they upload in the city before going to the countryside popular pages and pages previously requested. "There's only 0.003 percent of the web that rural Indians care about," founder Amir Hassan told the BBC. "They want to know the cricket scores, they want to see the new Aishwarya Rai photos, and they want to hear a sample of the latest Bollywood tunes."

Once in the countryside, a small box with an antenna onboard the buses or a motorcycle communicates with the rural computers, sometimes up to six times a day. Special content requests can be made for a few rupees, and emails are collected and delivered. Not only do the buses deliver web content, they also act as a courier service, picking up and delivering products ordered via the web for the villagers. "We're bringing e-commerce to rural India," said Hassan.

"My objective is to show to the village youth that having a PC with connectivity is a viable business, so that more and more unemployed youth can take up this as a self-employment opportunity," remarks villager Raj Kishor Swain, who helps with United Villages.

[Green WiFi](#), based in San Francisco, has a simple aim: to provide children in developing countries with access to the internet. But the difference is that they have developed a solution to the biggest problem in most remote regions: reliable electricity supply. Their invention is intended to partner with the US \$100 laptop computers being rolled out in the developing countries by the [One Laptop Per Child Project](#). Green WiFi has developed a low cost, solar-powered, standardized wi-fi access solution that runs out-of-the-box with no systems integration or power requirements. All that is required is a single source of broadband access and light.

In a further boost to internet access in Africa, the [World Bank](#) is also funding US \$164.5 million in high-speed internet access for Kenya, Burundi and Madagascar to boost regional competitiveness. Eastern and much of Southern Africa is the only region in the world not connected to the global broadband infrastructure.

### LINKS:

- [The Wireless Internet Institute](#) was launched in 2001 as an international think tank where stakeholders explore wireless Internet technologies, best practices and sustainable implementation models. W2i is a World Times, Inc. initiative addressing the regulatory, business and integration complexities associated with the deployment of wireless Internet technologies.
- [The World Dialogue on Regulation for Network Economies](#) is concerned with regulation and governance for network economies. They conduct research, facilitate online dialogue and discussion among experts, and publish and distribute papers, reports and other relevant information.
- [I-Genius](#): I-genius is a world community of social entrepreneurs and seeks to inspire a new generation of social innovators. They hope to encourage partnerships across geographical and cultural boundaries, by building partnerships between social businesses and wider stake holders, governments, corporations, NGOs, investors and the media.
  - A blog linking technology and social entrepreneurs: Click [here](#)
  - [Social Edge](#): a web portal for social entrepreneurs by social entrepreneurs

### ■ The Next 4 Billion: Market Size and Business Strategy at the Base of the Pyramid

Publisher: World Resources Institute

--The report measures for the first time the size of markets at the "base of the pyramid" -- people with less than \$3,000 a year using data from household surveys. Previous discussions of these markets have relied on business case studies and rough estimates of market size. The report presents a detailed, global economic portrait of these markets by providing a consistent, cross-country set of baseline data, such as recorded incomes and expenditures by region, country, sector, and urban or rural location. It complements the data with an overview of sector-specific business strategies from successful enterprises operating in these markets.

Website: [World Resources Institute](#)

### ■ Gambia: Kanilai Guide to Heritage Sites

by Demba Sanneh, Publisher: National Council for Arts and Culture

Website: [National Council for Arts and Culture](#)

### ■ Practical Answers

--A new website with an online resource centre, Practical Answers allows users from the South to access technical information material free of charge. Download factsheets, case studies and practical guides to appropriate technology, based on the UK-based Practical Action's many years of research and projects around the world.

Website: <http://practicalaction.org/>

### ■ Poor Story: An Insider Uncovers How Globalisation and Good Intentions Have Failed the World's Poor

by Giles Bolton, Publisher: Ebury Press

--A vivid account of the everyday problems facing African countries. It also explains why these problems exist, and tells the reader what to do about it.

Website: [www.amazon.com](http://www.amazon.com)

### ■ Making Finance Work for Africa

by Thorsten Beck et al, Publisher: World Bank

Website: [www.worldbank.org](http://www.worldbank.org)

## Job Opportunities

#### ■ [Africa Recruit Job Compendium](#)

##### ■ [Africa Union](#)

##### ■ [CARE](#)

##### ■ [Christian Children's Fund](#)

##### ■ [ECOWAS](#)

##### ■ [International Crisis Group](#)

##### ■ [International Medical Corps](#)

##### ■ [International Rescue Committee](#)

##### ■ [Internews](#)

##### ■ [IREX](#)

##### ■ [Organization for International Migration](#)

##### ■ [Oxfam](#)

#### ■ [Relief Web Job Compendium \(UN OCHA\) \(1\)](#)

#### ■ [Relief Web Job Compendium \(UN OCHA\) \(2\)](#)

##### ■ [Save the Children](#)

##### ■ [The Development Executive Group job compendium](#)

##### ■ [Trust Africa](#)

##### ■ [UN Jobs](#)

##### ■ [UNDP](#)

##### ■ [UNESCO](#)

##### ■ [UNICEF](#)

##### ■ [World Bank](#)

##### ■ [World Wildlife Fund \(Cameroon\)](#)



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